AMENDMENTS TO THE CLAIMS

Claims 1-5 (Cancelled)

6. (Currently Amended) A method of X-ray diffractometery, comprising the steps of:

mounting the sample on a sample stage;

directing X-rays through a double pinhole collimator onto a sample to be measured;

diffracting the X-rays diffracted by the sample with an analyser crystal onto a detector;

rotating the sample and rotating the analyser crystal and the detector about coaxial axes;

measuring the diffracted X-ray intensity as a function of the angle of rotation of the sample and the angle of rotation of the analyser crystal and detector;

~~mounting the sample on a sample stage;~~

rotating the analyser crystal and detector to a predetermined position;

rotating the sample whilst keeping the analyser crystal and detector in the predetermined position and measuring the X-rays reaching the detector as a function of angle of sample rotation;

determining the sample rotation angle at which the measured X-rays are at a peak and rotating the sample to that angle; and

rotating the sample and the analyser crystal and detector about coaxial axes; and measuring the diffracted X-ray intensity as a function of rotation angle of the sample and the angle of rotation of the analyzer crystal and detector.

7. (Original) A method of X-ray diffractometery according to claim 6 and further including varying the size of at least one pinhole in the double pinhole collimator.

8. (Cancelled)

9. (Previously Presented) A method of X-ray diffractometery according to claim 6 and further comprising the step of:

rotating the sample and the analyser crystal and detector with rotation speeds substantially in a 1:2 ratio.